

### ABSTRACT

A filter pump cover according to the invention comprises a filter cap, an air purge valve, and a filter cap retainer. An air purge valve according to the invention is comprised of a valve cap, a screw-threaded portion, and a valve stem having one or more  
5 outward-facing inverse hooks at the bottom. The inverse hooks are located at the bottom of the air purge valve stem and hook onto the bottom lip of the hollow central portion of the filter cap retainer to prevent complete removal of the valve stem from the filter cap retainer. The valve screw-threaded portion is interrupted by a valve opening slot on one side that permits the release of air from the pump when the valve is opened. The hollow  
10 part of the filter cap retainer mates with and holds the air purge valve by means of the screw threads when the valve is closed. The valve stem has an upper width that is smaller than the inner diameter of the retainer cap hollow part and a lower width at the inverse hooks that is smaller than the diameter of the retainer cap hollow part. Optional fixing slots for capturing the inverse hooks may be present at the bottom of the retainer cap  
15 hollow part. Spaces between the inverse hooks enable initial installation and/or complete removal of the valve stem when desired. When in use in a typical system, the filter cap retainer holding the air purge valve is inserted into the top of a filter container. The filter cap retainer is then held in place on the filter container by the filter cap to form the complete filter pump cover, leaving the air purge valve cap accessible through a hole in  
20 the top of the filter cap.